REMARKS

Claims 1-21 stand rejected. The drawings were objected to under 37 CFR 1.83(a). The Examiner rejected claims 1 and 4 under 35 USC 102(b) as being anticipated by DeRoo, Sr. (US 5,809,858). Claims 2 and 3 were rejected under 35 USC 103(a) as being unpatentable over DeRoo, Sr. in view of Deshet (US 4,856,399). Claim 5 was rejected under 35 USC 103(a) as being unpatentable over DeRoo, Sr. in view of Fetouh (US 4,569,109). Claims 6-8 were rejected under 35 USC 103(a) as being unpatentable over DeRoo in view of Duecker (US 5,927,582). Claims 9,12,14,15, and 20 were rejected over DeRoo in view of Duecker. Claims 10 and 11 are rejected under 35 USC 103(a) as being unpatentable over DeRoo in view of Duecker in further view of Deshet. Claim 13 was rejected under 35 USC 103(a) as being unpatentable over DeRoo in view of Duecker in further view of Fetouh. Claims 16-19 and 21 were rejected under 35 USC 103(a) as being unpatentable over DeRoo, Sr. in view of Duicker, Deshet, and Fetouh as applied to claims 1-15 and 20 in further view of Sutton.

Claims 1 and 4 rejected under 35 USC 102(b)

The Examiner rejected claims 1 and 4 under 35 USC 102(b) as being anticipated by DeRoo, Sr. (US 5,809,858). The office action states that DeRoo teaches using a splitting elements, a torque inducing element, loading the work piece onto the splitting element and breaking the work piece, and that the torque inducing element is capable of forcing a multiple board array without loading electrical components, and that the splitting element is a wedge.

The Applicant respectfully traverses this rejection on several grounds. The Applicant incorporates by reference the arguments present in the prior office action regarding these rejections. To summarize: DeRoo patent is non-analogous art; DeRoo reference does not teach edge loading the circuit board (Claim 1 "torque inducing element using edge loading to mechanically force the multiple board array onto the splitting element"); DeRoo reference does not teach the processing of a multiple board array with pre-scored planes and a plurality of electrical components; DeRoo reference does not teach positioning the splitting element along a pre-scored plane; and DeRoo

reference does not teach edge loading to force the board into the splitting element to "break the multiple board array along the pre-scored plane" and the torque inducing element "without loading the plurality of electrical components". Therefore, the rejection is improper. The Final Office action failed to address these limitations.

The Examiner, however, addressed these arguments presented in the previous office action by way of stating: "It is true that these patents do not disclose the splitting of a circuit board, however, an apparatus to cut a specific work piece is being claimed and not a method to cut a circuit board" and "The fact that this apparatus cuts a circuit board does not further limit the structure of the apparatus making the cuts". This was written in response to claims 1-15 and 20 and therefore must be responded to in regards to the individual claim groups. As for claims 1 and 4, the above referenced limitations clearly identify "multiple board array", "pre-scored plane", "plurality of electrical components", and a torque element that can induce torque in the board array without loading the plurality of electrical components. Clearly these are structural limitations. Under the Examiner's premise that the Applicant is simply claiming a new use for the DeRoo reference, the Applicant strenuously disagrees. The combination of edge loading and torque inducing without loading the electrical components are real and tangible structural limitations not taught by DeRoo. The fact that a circuit board may be put in the DeRoo device and split does not address the limitations cited.

Claims 2 and 3 rejected under 35 USC 103(a)

Claims 2 and 3 were rejected under 35 USC 103(a) as being unpatentable over DeRoo, Sr. in view of Deshet (US 4,856,399). The Office Action asserts that DeRoo teaches the limitations with the exception of the stabilizing elements, that Deshet teaches such a stabilizing element, and that it would have been obvious to combine.

The Applicant respectfully traverses the Examiner's rejections and incorporates by reference the arguments present in the prior office action regarding these rejections. Namely the objections to the DeRoo reference; non-analogous nature of Deshet; failure of either reference to teach: edge loading, positioning along a pre-scored plane; splitting along a pre-scored plane; reducing board flex; and torque induction without loading

electrical components mounted on the board array. The Applicant again asserts that these are tangible, real, and structural limitation not taught by either reference. Furthermore, no direct response has been made to these assertions. The Applicant argues that the argument that the cited reference could split a circuit board is inappropriate as in order to read on the present application they must not only split the board, but do so in the same manner using identical structures, and incorporate every limitation of the present invention. They do not. The assertion that the limitations referencing the circuit board or electrical components are not structural limitations is inaccurate. To assume they hold no structural limitations is to assume a steamroller is an appropriate tool to crack an egg.

Claim 5 was rejected under 35 USC 103(a)

Claim 5 was rejected under 35 USC 103(a) as being unpatentable over DeRoo, Sr. in view of Fetouh (US 4,569,109). The Applicant traverses this rejection and incorporates by reference the objections to the DeRoo reference discussed above in addition to those arguments presented in the previous office action. The Applicant submits that neither the DeRoo nor the Fetouh reference, either alone or in combination, teach all the limitations of the present invention. Therefore, the Applicant asserts that the rejection is improper and should be removed.

Claims 6-8 rejected under 35 USC 103(a)

Claims 6-8 were rejected under 35 USC 103(a) as being unpatentable over DeRoo in view of Duecker (US 5,927,582). The Office action asserts that DeRoo teaches the limitations of the present invention with the exception of a transport element with a plurality of wheels and the torque element being a pneumatic lever. The Office action asserts that Duecker teaches these limitations and that it would have been obvious to combine these references to arrive at the present invention.

The Applicant traverses these rejections and reasserts the objections to the DeRoo reference. In addition the Applicant reasserts the objections to the Duecker reference as asserted throughout prosecution as non-analogous art. Again, prior arguments are incorporated. The references cited do not teach the limitations of the present invention,

the references are non-analogous and therefore not prior art, and that improper motivation to combine has been established. Therefore, the Applicant respectfully asserts the rejection was improper.

Claims 9,12,14,15, and 20 rejected under 35 USC 103(a)

Claims 9,12,14,15, and 20 were rejected over DeRoo in view of Duecker. The Applicant respectfully incorporates all the above arguments regarding DeRoo and Duecker. Rather than repeating identical arguments regarding these two references and the limitations of claims 9, 12, 14, and 15 which are contained and argued as above for claims 1-8, the Applicant would like to concentrate on limitations not present in the cited references that have thus far not been addressed.

The Applicant traverses these rejections. The Applicant notes that neither reference teaches the claimed limitation of a shield element placed over the electronic components wherein the torque is safely applied through the shield elements. This is quite significant as it is notable that the cited references not only don't utilize or teach shield elements but do not need them as they are non-analogous art. As the cited references were never intended to deal with circuit boards loaded with electronic components, they do not teach such a limitation. The materials processed by the cited references are not as fragile nor similarly damaged as circuit boards. This further emphasizes not only these references failure to teach the cited limitations of the present claims but their non-analogous nature.

The rejection of these claims is improper as the cited claim limitations pointed out by the Applicant have not been addressed.

Claims 10 and 11 are rejected under 35 USC 103(a)

Claims 10 and 11 are rejected under 35 USC 103(a) as being unpatentable over DeRoo in view of Duecker in further view of Deshet. The Applicant traverses this rejection and again reasserts the objections to DeRoo, Duecker, and Deshet. The Applicant asserts as above that the cited references fail to teach the limitations of the present invention. The Applicant further asserts that there is improper motivation to combine a flat die-cutting material device, a cardboard ripping device, and a sheet metal

stamping device to arrive at the claimed apparatus for snapping apart individual circuit boards from a multiboard array. The Applicant further notes that the assertion that Deshet teaches a stabilizing device as opposed to a clamping device is incorrect. The present invention claims a stabilizing device to reduce board flex. This is not taught by the cited references. It is noted, however, that the underlying claim limitations (as previously argued) are not contained within DeRoo or Duecker and therefore the rejection is improper even without regard to Deshet or the lack of motivation to combine.

Claim 13 was rejected under 35 USC 103(a)

Claim 13 was rejected under 35 USC 103(a) as being unpatentable over DeRoo in view of Duecker in further view of Fetouh. The Applicant traverse and reincorporates all the previous arguments regarding the failure of DeRoo and Duecker to teach the underlying limitations of the claimed invention. In addition, improper motivation to combine has been established. The Applicant, therefore asserts a rejection of these claims is improper.

Claims 16-19 and 21 were rejected under 35 USC 103(a)

Claims 16-19 and 21 were rejected under 35 USC 103(a) as being unpatentable over DeRoo, Sr. in view of Duicker, Deshet, and Fetouh as applied to claims 1-15 and 20 in further view of Sutton. The Applicant notes that these rejections were presented for a first time in the present final office action and therefore should not be the basis of a final rejection. The Applicant notes further that no motivation to combine was evidenced in the office action from any of the plurality of references strung together for this rejection. The Applicant notes that the Sutton reference teaches a shearing cut to separate circuit boards which is precisely the prior art the present invention was designed to improve on. The Sutton reference shearing requires electronic components cannot be located too close to the shear line, does not teach reduction of board flex, or the use of shield elements to transfer torque without loading the electronic components. The cited references do not teach any of these limitations either. To combine these references to come anywhere near the method limitations of the present invention requires the complete suspension of the concept of motivation-to-combine. Especially in regards to the method claims of the

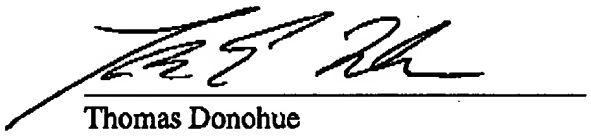
present invention, no sufficient support for an obviousness rejection has been supplied. Section 103 specifically requires evaluation of the claimed invention as a whole. A part by part identification of different limitations in the cited references is improper. *Envtl. Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698 (Fed. Cir. 1983)

CONCLUSION

The Applicant would like to thank the Examiner for his assistance. In light of the above remarks, Applicant submits that all objections and rejections are now overcome. Applicant has added no new material to the application. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited.

Should the Examiner have any questions or comments that would place the application in better condition for allowance, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,



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